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To: "Elaine Hebert" <Ehebert@energy.state.ca.us>
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Subject: FW: Green Building - Comments on Obstacles/Incentives

Elaine,

In regard to obstacles to/incentives for furthering energy efficient building, the first one that comes to mind is "Perceived or actual poor performance of energy efficiency measures after installation." With quite a few measures (lighting and HVAC controls, economizers) the savings usually don't match up with predictions, and there's a perception in much of the market that these systems don't deliver (HMG proved this for photocontrols in sidelit buildings [www.nwalliance.org/research/reports/152.pdf], and Evan Mills' paper on commissioning [http://eetd.lbl.gov/Emills/PUBS/PDF/Cx-Costs-Benefits.pdf] also provides good evidence). The incentives to fix this could include a list of qualified contractors for each type of equipment, and case studies (both of which are already on your list). It could also involve a requirement in some voluntary accreditations (such as LEED or utility programs) or in Title 24 that commissioning be carried out, and/or that long-term monitoring equipment ("performance monitoring, fault detection and diagnosis"...) should be installed. Of course, ensuring that the monitoring is actually continued in the long term is another question, so another incentive could be to offer a discount on a customer's utility bill simply for providing long-term monitored data.

Another obstacle is the absence of a convenient benchmark for the energy performance of buildings, per square foot. This already exists on the DOE EnergyStar website, but I don't think there's anything specific to CA that breaks down the benchmarking by climate zone or by building type. Incentives to overcome this obstacle could include a statewide database of energy performance in terms of EUI by end use, with data provided by long-term performance monitoring (as above) in conjunction with estimates of the breakdown by end-use. Benchmarking would allow building operators to see how far above or below benchmark they are, and perhaps be incentivized accordingly through their utility bill.

Even when energy efficient equipment is installed, it often falls into disuse because it breaks down or because people don't know how to use it. Both these ideas are aimed at solving that problem.

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